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TITLE

SURVEY OF THE BIG CREEK DRAINAGE  
NEAR MCCALL, IDAHO  
1945

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Coeur d'Alene, Idaho  
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In the summer of 1945 an inspection was made of the Big Creek Creek Drainage near McCall, Idaho by Supervisor Farrell and K.E. Wilde of the Payette National Forest, and J.C. Evenden and A.L. Gibson of the Coeur d'Alene Forest Insect Laboratory. The inspection was for the purpose of determining the amount of infestation of the western pine beetle. Trees being killed by that insect were found to be very few but heavy losses due to the Douglas fir beetle in Douglas fir were noted and a survey planned for the area. The survey was to be made subsequent to the period of attack of the Douglas fir beetle in 1945. A.L. Gibson spent from October 4 to 17 examining 25 sections of the timbered area on the Big Creek Drainage most of which was owned by the Brown Tie and Lumber Company and a few sections each of state and Forest Service land.

The area surveyed had been cut over for the larger and better quality ponderosa pine and Douglas fir, leaving a stand in which Douglas fir was found to comprise about half the volume of all timber 8 inches and larger in diameter.

LOSSES DUE TO FOREST INSECTS

On the Brown holdings, activity of the Douglas fir beetle during the 1945 season had resulted in the loss of only about .24 percent of the green Douglas fir. Losses in approximately the last 15 to 25 years, as indicated by standing dead trees, have amounted to 7.3 percent of the present green stand. State and Forest Service holdings adjoining show a much heavier present infestation. The data from the three holdings giving the percent of Douglas fir in each classification, are presented in the following table:

TABLE I

STATUS OF DOUGLAS FIR S<sup>2</sup> AND  
OVER IN D.B.H. ON BIG CREEK DRAINAGE  
1945

Douglas Fir S<sup>2</sup> + D.B.H. Percent

Ownership	Acres of Sample	Green	Old Kill <sup>(1)</sup>	Att. in 1945 <sup>(1)</sup>
Brown	126.75	99.8	7.3	.24
Forest Ser.	15.75	96.7	2.4	3.33
State	<u>8.25</u>	<u>97.1</u>	<u>13.6</u>	<u>2.91</u>
Totals & Averages	150.75	99.1	7.0	.93

(1) By Douglas fir beetle

The much heavier infestation of the Douglas fir beetle in state and Forest Service property, raises the average loss on the drainage for the current year to approximately .9 percent of the stand. Of the Brown holdings on the Big Creek drainage, 19 sections were surveyed. On 10 of them infestation of the Douglas fir beetle was noted. Failure to find it on the other 9 sections does not mean none was present, but that it was probably quite light. From an analysis of the data it was found that only a very light infestation exists over the Brown holdings as a whole, such as you may expect to find on any area for a few years following logging. On only three sections of the Brown holdings, 19 and 29 in Township 15 North, Range 2 East; and Section 9, Township 17 North, Range 2 East, are potentially serious infestations to be found. Even on these, it seems to be decreasing. The heaviest infestation on the drainage is concentrated at higher elevations and in state and Forest Service lands at the head of the drainage. Even though, there too, the outbreak appears to be decreasing, its potential danger warrants periodic inspection. A resume of the infestation condition noted on each section is given in the following tabulation.



TABLE II

In Township  
18 North,  
Range 2 East

Section	Infestation			Owner- ship
	None Noted	Very Light	Potentially Dangerous Infestation	
19			x	Brown
20	x			Brown
21	x			Brown
22	x			Brown
27	x			Brown
28		x		Brown
29			x	Brown
30	x			Brown
31	x			Brown and Forest Service
32		x		Brown
33		x		Brown
34		x		Brown

In Township  
17 North,  
Range 2 East

3		x		Brown
4	x			Brown
5		x		Brown
6			x	Forest Service
7	x			Forest Service
8		x		Brown and Forest Service
9			x	Brown
10	x			Brown
15	x			Brown
16			x	State
17			x	Forest Service
21	x			Forest Service
22	x			State

From the preceding tabulation it is seen that six sections contain potentially dangerous infestations. For that reason the drainage should be inspected during 1946.

In conducting the survey, limited time permitted an average of only 1.1 percent of the area to be sampled. So small a sample cannot be

expected to furnish as accurate data as could be secured from a more intensive survey. However, estimates based on these data are presented as being the best available, but with a full realization of their limitations.

TABLE III

STATUS OF THE TIMBER STAND ON PROPERTY OF THE BROWN  
TIN AND LUMBER COMPANY NEAR MEADOWS, IDAHO  
1945

<u>Stand Present Per Acre</u>										Killed by	
Before Logging				Amt. Logged		After Logging			D.F. Beetles		
DBH	D.F.	P.P.	Others	D.F.	P.P.	D.F.	P.P.	Others	Old <sup>(1)</sup>	1945	
8"+	17.58	18.44	5.24	--	--	16.24 <sup>(2)</sup>	11.01	5.24	1.19	.04	
20"+	4.30	9.44	.49	1.34	7.43	2.97	2.01	.49	.49	.01	

(1) Period during which trees were killed not known - standing trees

(2) Includes trees killed by Douglas fir beetle in 1945 amounting to .04 trees per acre

From the preceding table it was found that the percent of losses due to the Douglas fir beetle were over twice as heavy (11.4 percent) in the trees over 20 inches in diameter breast high as they were in trees from 8 to 20 inches in diameter (5.3 percent). The larger trees are usually those which are overmature and slower growing. It is in these overmature stands that bark beetles cause the heaviest losses.

Some of the overmature trees, which are considered susceptible to bark beetle attack were not removed at the time the Brown holdings were logged. They average about 2 trees per acre. It is not known if the susceptibility condition of these large, old trees will be changed by the cutting, which has resulted in releasing much of the remaining stand from competition. To secure some idea as to the effect of cutting on growth of the residual stand in this region, a few cores were obtained from trees on Thorn Creek in an area cut-over a few years ago. Data from a few cores can only be expected to indicate trends. From these data it was found that a decided acceleration in growth of remaining trees had taken place when nearby trees were cut. The data from them supports the accepted belief that after a stand reaches a stabilized condition following cutting, a general acceleration in growth occurs. This increased growth reflects improved growing conditions and a reduction in the susceptibility of the remaining trees to insect attack. Such a condition is expected to develop on the Brown holdings.



The conclusion which can be drawn regarding the Big Creek drainage is that the present infestation of the Douglas fir beetle is, in general, light. On only three sections of the Brown holdings and on Forest Service and state lands, do infestation conditions warrant periodic examinations.